09/672,639   00AB154

COMPLETE LISTING OF THE CLAIMS

1.   (Currently Amended) A raster engine for interfacing a frame buffer in a computer system to a plurality of disparate display types over a single interface, comprising:

at least one control register programmable via the computer system to select a display mode;

a programmable grayscale generator to generate grayscale formatted data for a plurality of disparate display types and formats from pixel data in the frame buffer, wherein the grayscale generator generates grayscale data according to the selected display mode; and

a logic device ~~with a parallel single output, the logic device~~ adapted to select appropriate pixel data from the grayscale generator in accordance with a selected display mode, and to provide the selected pixel data ~~at the parallel~~ to a single output, wherein the single output can provide data to both CRTs and LCDs.

2.   (Original) The raster engine of claim 1, further comprising a grayscale look up table control register programmable by the computer system, and wherein the grayscale generator comprises a grayscale look up table programmable by the computer system using the grayscale look up table control register.

3.   (Original) The raster engine of claim 2, wherein the grayscale look up table comprises a three dimensional matrix having a frame dimension, a vertical dimension, a horizontal dimension, and a plurality of data entries associated with each combination of frame, vertical, and horizontal dimensions, and wherein the data entries comprise a plurality of matrix position enable bits adapted to indicate whether a pixel in the display is energized.

4.   (Original) The raster engine of claim 3, wherein the grayscale generator further comprises a frame counter, a vertical counter, and a horizontal counter, and wherein the grayscale look up table data entries define dithering operation for a pixel value according to the frame counter, the vertical counter, and the horizontal counter.

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5.   (Original) The raster engine of claim 4, wherein the frame dimension comprises one of 3 and 4, wherein the vertical dimension comprises one of 3 and 4, and wherein the horizontal dimension comprises one of 3 and 4.

6.   (Original) The raster engine of claim 5, wherein the grayscale generator is adapted to translate 3 bits of pixel data for a pixel in the display to generate grayscale formatted data for the pixel to provide 8 shades of gray according to the selected display mode and the grayscale lookup table data entries.

7.   (Original) The raster engine of claim 3, wherein the frame dimension comprises one of 3 and 4, wherein the vertical dimension comprises one of 3 and 4, and wherein the horizontal dimension comprises one of 3 and 4.

8.   (Original) The raster engine of claim 1, wherein the grayscale generator is adapted to translate 3 bits of pixel data for a pixel in the display to generate grayscale formatted data for the pixel to provide 8 shades of gray according to the selected display mode.

9.   (Original) The raster engine of claim 1, wherein the grayscale generator comprises a frame counter, a vertical counter, and a horizontal counter.

10.   (Original) The raster engine of claim 6, wherein the grayscale generator is programmable by a user via an application program in the computer system.

11.   (Original) The raster engine of claim 10, wherein the application program is a video driver.

12.   (Original) The raster engine of claim 1, wherein the grayscale generator is programmable by a user via an application program in the computer system.

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13.   (Original) The raster engine of claim 6, wherein the display type is one of a monochrome display, a liquid crystal display, and an electro-luminescent display.

14.   (Original) The raster engine of claim 1, wherein the display type is one of a monochrome display, a liquid crystal display, and an electro-luminescent display.

15-21 (Cancelled)

22.   (Currently Amended) A raster engine for interfacing a frame buffer in a computer system to one of a plurality of disparate display types, comprising:

means for selecting a display mode;

means for obtaining pixel data from the frame buffer and programmable via the computer system to generate grayscale formatted data for a plurality of disparate display types and formats including the selected display mode; and

parallel output means for selecting appropriate pixel data from the means for obtaining pixel data for the selected display mode, and for providing the selected pixel data at a single parallel output according to the selected display mode, wherein the single output provides data to both CRTs and LCDs.

23.   (Original) The raster engine of claim 22, further comprising a grayscale look up table control register programmable by the computer system, and wherein the means for obtaining pixel data comprises a grayscale look up table programmable by the computer system using the grayscale look up table control register.

24.   (Original) The raster engine of claim 23, wherein the grayscale look up table comprises a three dimensional matrix having a frame dimension, a vertical dimension, a horizontal dimension, and a plurality of data entries associated with each combination of frame, vertical, and horizontal dimensions, and wherein the data entries comprise a plurality of matrix position enable bits adapted to indicate whether a pixel in the display is energized.

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25.   (Original) The raster engine of claim 24, wherein the means for obtaining pixel data further comprises a frame counter, a vertical counter, and a horizontal counter, and wherein the grayscale look up table data entries define dithering operation for a pixel value according to the frame counter, the vertical counter, and the horizontal counter.

26.   (Original) The raster engine of claim 25, wherein the means for obtaining pixel data is adapted to translate 3 bits of pixel data for a pixel in the display to generate grayscale formatted data for the pixel to provide 8 shades of gray according to the selected display mode and the grayscale lookup table data entries.

27.   (Original) The raster engine of claim 24, wherein the frame dimension comprises one of 3 and 4, wherein the vertical dimension comprises one of 3 and 4, and wherein the horizontal dimension comprises one of 3 and 4.

28.   (Currently Amended) The raster engine of claim 1, the ~~output~~ logic device comprising two or more of a pixel shifting logic system, a YCrCb encoder, and a DAC.

29.   (Previously Presented) The raster engine of claim 22, the parallel output means comprising two or more of a pixel shifting logic system, a YCrCb encoder, and a DAC.

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